

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A RF stage in a wireless station comprising:
a detector for detecting a sequence in an incoming signal received by the wireless station and for generating an activation signal in response to detecting the sequence in the incoming signal;
wherein the incoming signal comprises a data frame with a preamble and a payload within a single frequency band, and the detector is configured to detect the sequence within the preamble of the data frame.
2. (currently amended) The RF stage as claimed in claim 1, characterized in that wherein the detector is further configured to transmit the activation signal to a baseband stage in the wireless station receives the activation signal and transitions to transition the baseband stage from a low power state to an active power state in response to receiving the activation signal.
3. (currently amended) The RF stage as claimed in claim 1, characterized in that wherein the detector comprises:
a delay for inserting a predetermined time delay into the incoming signal;
a correlator for receiving the incoming signal and the delayed incoming signal and for generating a correlated signal; and
a peak detector for receiving the correlated signal and for detecting the sequence, wherein the peak detector generates the activation signal in response to detecting the sequence.

4. (currently amended) The RF stage as claimed in claim 1, characterized in that wherein the detector comprises:

a matched filter having coefficients defined by the sequence and for generating a match signal when the sequence is included in the incoming signal; and

a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter.

5. (currently amended) The RF stage as claimed in claim 5, characterized in that the incoming signal comprises a data frame including the sequence and claim 1, wherein the sequence comprises a Barker sequence.

6. (currently amended) The RF stage as claimed in claim 5, characterized in that the incoming signal comprises a data frame including the sequence and claim 1, wherein the sequence comprises a sequence of OFDM symbols.

7. (currently amended) A wireless station, comprising:

a baseband stage in a low power state when a signal is not received by the wireless station and; and

a RF stage for detecting a sequence in a signal received by the wireless station and for generating an activation signal in response to detecting the sequence, wherein the signal comprises a data frame with a preamble and a payload within a single frequency band, and the RF stage is configured to detect the sequence within the preamble of the data frame;

wherein the activation signal is transmitted to the baseband stage to cause the baseband stage to transition from the low power state to an active power state.

8. (currently amended) The wireless station as claimed in claim 7, characterized in that wherein the RF stage comprises a receiver for detecting the sequence in the signal received by the wireless station and for generating the activation signal in response to detecting the sequence.

9. (currently amended) The wireless station as claimed in claim 8, characterized in that wherein the receiver comprises a detector for detecting the sequence in the signal and for generating the activation signal in response to detecting the sequence.

10. (currently amended) The wireless station as claimed in claim 9, characterized in that wherein the detector comprises:

a delay for inserting a predetermined time delay into the signal;

a correlator for receiving the signal and the delayed signal and for generating a correlated signal; and

a peak detector for receiving the correlated signal and for detecting the sequence, wherein the peak detector generates the activation signal in response to detecting the sequence.

11. (currently amended) The wireless station as claimed in claim 9, characterized in that wherein the detector comprises:

a matched filter having coefficients defined by the sequence for receiving the signal and for generating a match signal when the sequence is included in the signal; and

a peak detector for receiving the match signal from the matched filter and for generating the activation signal in response to receiving the match signal from the matched filter.

12. (currently amended) The wireless station as claimed in claim 7, characterized in that the signal comprises a data frame including the sequence and wherein the sequence comprises a Barker sequence.

13. (currently amended) The wireless station as claimed in claim 7, characterized in that the signal comprises a data frame including the sequence and wherein the sequence comprises a sequence of OFDM symbols.

14. (currently amended) A method for detecting a sequence in a signal received by a wireless station, the method comprising the steps of:

detecting the sequence in a RF stage in the wireless station ~~and; and~~

generating an activation signal in response to detecting the sequence;

wherein the signal comprises a data frame with a preamble and a payload within a single frequency band, and the RF stage is configured to detect the sequence within the preamble of the data frame.

15. (currently amended) The method as claimed in claim 14, further comprising ~~the step of~~ transmitting the activation signal to a baseband stage in the wireless station to cause the baseband stage to transition from a low power state to an active power state.

16. (currently amended) The method as claimed in claim 14, ~~characterized in that the step of~~ wherein detecting the sequence in a RF stage in the wireless station comprises ~~the step of~~ detecting the sequence in a detector in the RF stage in the wireless station.

17. (currently amended) The method as claimed in claim 16, ~~characterized in that the step of~~ wherein detecting the sequence in a detector in the RF stage in the wireless station comprises ~~the steps of:~~

inputting the signal into a delay for inserting a predetermined time delay into the signal;

inputting the signal and the delayed signal into a correlator for generating a correlated signal; and

inputting the correlated signal into a peak detector for detecting the sequence.

18. (currently amended) The method as claimed in claim 16, ~~characterized in that the step of~~ wherein detecting the sequence in a detector in the RF stage in the wireless station comprises ~~the steps of:~~

inputting the signal into a matched filter having coefficients defined by the sequence;

generating a match signal when the sequence is included in the signal; and

inputting the match signal into a peak detector to cause the peak detector to generate the activation signal in response to receiving the match signal from the matched filter.

19. (currently amended) The method as claimed in claim 14, characterized in that the signal comprises a data frame including the sequence and wherein the sequence comprises a Barker sequence.

20. (currently amended) The method as claimed in claim 14, characterized in that the signal comprises a data frame including the sequence and wherein the sequence comprises a sequence of OFDM symbols.